

FIELD PLANNING AND CONSTRUCTION**Review of Core Construction and Plumbing, Gasfitting and Drainlaying unit standards**

Subfield	Domain	Id
Construction Trades	Core Construction	2138, 2139, 2142
Plumbing, Gasfitting and Drainlaying	Drainlaying	1099-1102, 1104, 1106-1112, 1114-1118, 1120-1122
	Gasfitting	2114-2116, 2118, 2121-2124, 2131, 2135
	Plumbing	2117, 2136, 2137, 2140, 2141, 2143-2145, 2147, 2149, 2153-2165

The Plumbing, Gasfitting and Drainlaying Industry Training Organisation Ltd has completed the review of the unit standards listed above.

Date new versions published

October 2007

Planned review date

December 2012

Summary of review and consultation process

The unit standards listed above were due for review. The review took place in the context of the review of the plumbing, gasfitting, and drainlaying national certificates. Apart from unit standards 2131 and 2158, the review did not include Level 5 unit standards.

Changes to these unit standards were based on comments received from industry and from training providers as a result of an extensive consultation and feedback process that took place over a four and half year period. Plumbing, Gasfitting and Drainlaying Industry Training Organisation Ltd advisory groups, and review teams for each of the plumbing, gasfitting, and drainlaying sectors comprising industry and training provider representatives considered the comments. The Plumbers, Gasfitters and Drainlayers Registration Board also participated in, and contributed to, the review process.

The focus of the review was on updating content to reflect current practice; quality improvement; and confirmation that the classification, Level, and credit values were consistent with the content and purpose of each unit standard. The review teams took into consideration changes to legislation and changes in technology applicable to the unit standards before recommending and endorsing the changes. An additional element was added to many of the unit standards for evidence of the candidate's knowledge, in terms of the unit standard outcomes, of the applicable regulatory requirements, the methods and materials selected, and, in many cases, the application of relevant underpinning concepts and principles.

New unit standards were developed as a result of the review to reflect identified skill gaps, and are listed in the 'Review Categories and changes to classification, title, Level, and credits' section of this report.

Main changes resulting from the review

- Unit standard 2139 was reclassified from Core Construction domain to Core Plumbing, Gasfitting, and Drainlaying domain.

- Unit standards 1099 and 1122 were reclassified from Drainlaying domain to Core Plumbing, Gasfitting, and Drainlaying domain.
- Unit standard 2157 was reclassified from Plumbing domain to Core Plumbing, Gasfitting, and Drainlaying domain.
- Category C reviews – Unit standards 1110 and 1111 were replaced by unit standard 23846; unit standards 2131 and 2158 were replaced by unit standard 21887; unit standards 2135 and 2162 were replaced by unit standard 21845; unit standards 2145, 2160, and 2161 were replaced by unit standard 23841; unit standards 2147, 2163, 2164, and 2165 were replaced by unit standard 21884; unit standard 2151 was replaced by unit standards 23850 and 23851; unit standards 2154 and 2155 were replaced by unit standard 21885; and unit standard 2156 was replaced by unit standard 21886.
- Category D reviews – Unit standards 2118, 2121-2124, 2129, 2133, 2140, and 2141 will expire and will not be replaced.
- Unit standards 1107, 1115, 1120, 1121, 2114, 2115, 2136-2138, and 2159 have been modified to allow demonstration of knowledge rather than practical performance.
- Unit standards 1099, 1101, 1104, 1106-1109, 1112, 1114, 1115, 1117, 1118, 1120, 1121, 1122, 2114-2117, 2132, 2136-2139, 2143, 2144, 2149, 2153, 2157, and 2159 had changes of title to reflect their outcomes, as reviewed.
- Unit standards 1100, 1107, 1112, 1114, 1115, and 1118 had increases in Level.
- Unit standards 1120, 1121, 2114, 2115, 2136-2139, 2143, and 2159 had decreases in Level.
- Unit standards 1099, 1104, 1107, 1112, 1117, 1122, 2116, and 2144 had increases in credits.
- Unit standards 1100, 1106, 1115-1116, 1118, 1121, 2114, 2115, 2132, 2136-2138, 2153, 2157, and 2159 had decreases in credits.
- Entry information has been updated, where applicable, to include the prerequisite 'Current plumbing certificate or licence as issued under the Plumbers, Gasfitters, and Drainlayers Act 2006'.
- Special notes have been reworked to include: more extensive lists of relevant legislation, codes, standards, and guides; reference, where applicable, to the Plumbers, Gasfitters, and Drainlayers Regulations 1977; applicable definitions; applicable ranges; and other notes deemed necessary.
- Elements and performance criteria have been reworked, extensively in most cases, to: incorporate user feedback; to improve clarity and specificity; to reflect current good practice; to remedy some errors; and to allow, with an element in unit standard 1109, demonstration of knowledge rather than practical performance.
- Most of the unit standards have had an element added regarding the demonstration of knowledge of regulatory requirements, selection of methods and materials, and, where applicable, underpinning concepts and principles, as applied to the outcome or outcomes covered by the unit standard.

Unit standards categorised as category C or D expire at the end of December 2011.

Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or Id	Level	Nature of accreditation	Classification or Id	Level
Domain	Core Construction	3+	Standard	2139	2

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or Id	Level	Nature of accreditation	Classification or Id	Level
Domain	Drainlaying	3	Standards	1099, 1122	3
			Standards	1100, 1107, 1112, 1114, 1115, 1118	4
Domain	Plumbing	3	Standard	21884	4

Impact on Accreditation and Moderation Action Plan (AMAP)

None.

Impact on existing qualifications

Qualifications that contain the reviewed standards or classifications are tabled below.

Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
Not materially affected	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following Plumbing, Gasfitting and Drainlaying Industry Training Organisation Ltd. qualifications are affected by the outcome of this review and will be reviewed in 2007. The items that generated the affected status are in **bold**.

Qualification title	Classification or standard in the qualification
National Certificate in Drainlaying [Ref: 0077]	1099, 1100, 1101, 1102, 1104, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1114, 1115, 1116, 1117, 1118, 1120, 1121, 1122
National Certificate in Gasfitting [Ref: 0201]	1099, 2114, 2115, 2116, 2118, 2121, 2122, 2123, 2124, 2135, 2138, 2139, 2142, 2158
National Certificate in Plumbing [Ref: 0202]	1099, 1102, 2117, 2136, 2137, 2138, 2139, 2140, 2142, 2143, 2144, 2145, 2147, 2149, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165

The following qualifications are also affected by the outcome of this review. The standard setting bodies (SSBs) have been advised that they require revision.

Qualification title	Classification or standard in the qualification	SSB Name
National Certificate in Demolition (Introductory Skills) (Level 2) [Ref: 1085]	2138	InfraTrain New Zealand
National Certificate in Gas Network Operations (Leakage Control) (Level 3) [Ref: 0400]	1099	NZ Extractive Industries Training Organisation
National Certificate in Gas Network Operations (Operations and Maintenance) (Level 3) [Ref: 0885]	1099	
National Certificate in Gas Industry (Gas Distribution) (Level 2) [Ref: 1020]	1099	
National Certificate in Gas Network Construction (Level 3) with strands in Polyethylene Pipelaying, and Steel Pipelaying [Ref: 1022]	1099	

Qualification title	Classification or standard in the qualification	SSB Name
National Certificate in Painting with optional strands in Wall Coverings, Spray Techniques, Specialised Coatings, and Industrial Coatings [Ref: 1071]	2138	New Zealand Painting Contractors Association of Employers Industry Training Organisation

Review Categories and changes to classification, title, level and credits

All changes are in **bold**.

Key to review category	
A	Dates changed, but no other changes are made - the new version of the standard carries the same Id and a new version number
B	Changes made, but the overall outcome remains the same - the new version of the standard carries the same Id and a new version number
C	Major changes that necessitate the registration of a replacement standard with a new Id
D	Standard will expire and not be replaced

Subfield Construction Trades

Id	Subfield	Domain	Title	Level	Credit	Review Category
2138	Construction Trades	Core Construction	Remove asbestos products	3	2	B
			Demonstrate knowledge of asbestos and safety procedures	2	1	
2139	Construction Trades Plumbing, Gasfitting and Drainlaying	Core Construction Core Plumbing, Gasfitting, and Drainlaying	Solder metal joints	3	3	B
			Soft solder metal joints	2		
2142	Construction Trades	Core Construction	Apply sealants to joints	3	3	B

Subfield Plumbing, Gasfitting and Drainlaying

Id	Domain	Title	Level	Credit	Review Category
1099	Drainlaying Core Plumbing, Gasfitting, and Drainlaying	Excavate and trench Excavate and trench for plumbing, gasfitting, or drainlaying	3	7 9	B
1122	Drainlaying Core Plumbing, Gasfitting, and Drainlaying	Establish levels and gradients using laser equipment Establish line, level, and gradient for plumbing or drainlaying	3	2 4	B

Id	Domain	Title	Level	Credit	Review Category
2131	Gasfitting	Design and construct sheet metal gasfitting requirements	5	9	C
2158	Plumbing	Design and construct sheet metal plumbing requirements	5	9	C
21887	Core Plumbing, Gasfitting and Drainlaying	Draw patterns and construct sheet metal products for plumbing or gasfitting requirements	4	5	
2135	Gasfitting	Weld steel sheet and tube	4	15	C
2162	Plumbing	Weld steel plumbing pipe and sheet	3	7	C
23845	Core Plumbing, Gasfitting, and Drainlaying	Demonstrate metal welding for plumbing or gasfitting	3	9	
2157	Plumbing	Install air heating and ventilation ducting, filters, fans and grills	3	6	B
	Core Plumbing, Gasfitting, and Drainlaying	Install and maintain air heating and ventilation ducting and equipment		5	

Domain Core Plumbing, Gasfitting, and Drainlaying

Id	Title	Level	Credit	Review Category
21879	Determine job requirements and describe job pricing factors for plumbing, gasfitting, or drainlaying	3	3	New
21881	Describe ethical and legal considerations for plumbing, gasfitting, or drainlaying services	2	2	New
21882	Interpret drawings and specifications and draw drawings for plumbing, gasfitting, or drainlaying	4	6	New
21883	Demonstrate knowledge hazards and precautions for working with gas in plumbing, gasfitting, or drainlaying	2	3	New

Domain Drainlaying

Id	Title	Level	Credit	Review Category
1100	Install storm water intake and outfall structures	3 4	4 3	B
1101	Install interceptor traps Install domestic waste interceptor traps	3	3	B
1102	Install trade waste interceptor traps	3	4	B
1104	Install sub soil drainage Install sub-soil drainage	3	2 4	B
1106	Perform maintenance on drainage systems Perform drain maintenance	3	7 6	B

Id	Title	Level	Credit	Review Category
1107	Install retention tanks Demonstrate knowledge of retention and detention tank installation, commissioning, and maintenance	3 4	2 4	B
1108	Install silt traps and sumps Install and maintain sumps	3	4	B
1109	Install surface water collection systems Install surface water collection systems, and demonstrate knowledge of their maintenance	3	4	B
1110	Install effluent disposal systems	3	6	C
1111	Install effluent distribution box, pump and chamber	3	2	C
23846	Install an effluent distribution chamber and disposal field, and demonstrate knowledge of their maintenance	3	5	
1112	Install septic tanks Select and install a septic tank, and explain maintenance of septic tanks	3 4	5 8	B
1114	Install a drain Install drains	3 4	10	B
1115	Install a manhole Demonstrate knowledge of access chambers and their installation	3 4	6 4	B
1116	Install wet and dry inspection chambers	3	5 4	B
1117	Install thrust, anti-scour and anchor blocks Install thrust, anti-scour, and anchor blocks	3	1 4	B
1118	Install sewage pump station Install a sewage pump station	3 4	6 4	B
1120	Select, use and maintain drainlaying hand tools Identify and describe hand tools and checking equipment for drainlaying	3 2	2	B
1121	Select, use and maintain drainlaying trade equipment and power tools Identify and describe trade equipment and power tools used for drainlaying	3 2	4 2	B
21904	Install and maintain pumps and controls for a non-potable water supply and disposal system	4	6	New
21946	Demonstrate knowledge of the installation of on-site wastewater treatment systems	4	6	New

Domain Gasfitting

Id	Title	Level	Credit	Review Category
2114	Use and maintain gasfitting hand tools Identify and describe hand tools and testing equipment for gasfitting	3 2	3 2	B
2115	Use and maintain gasfitting trade equipment Identify and describe trade equipment and power tools used for gasfitting	3 2	4 1	B

Id	Title	Level	Credit	Review Category
2116	Install and secure gas supply pipework Install, commission, and maintain consumer gas pipework	4	11 12	B
2118	Install gas hot water supply systems	3	10	D
2121	Install and maintain gas space heaters	4	11	D
2122	Install and maintain domestic gas fired appliances and fittings	4	10	D
2123	Install and maintain commercial gas fired appliances and equipment	4	11	D
2124	Install and maintain industrial gas fired appliances and equipment	3	11	D
2129	Install and maintain gas fired air heating and ventilation systems	4	9	D
2132	Install and maintain gas metering equipment Install, commission, and maintain gas metering equipment, and interpret and record gas meter data	4	7 6	B
2133	Install gas service lines	3	8	D
21890	Install, commission, and maintain Type 1 gas appliances and equipment	4	22	New
21893	Install and commission Type 2 gas appliances and equipment	4	19	New
21896	Demonstrate knowledge of the installation of Type 3 gas appliances and equipment	4	14	New
21897	Demonstrate knowledge of the gasfitting of LPG cylinder systems for gas installations	3	4	New
21898	Identify, install, test, commission, and maintain gas control devices	4	10	New
21899	Identify, test, and maintain control and safety devices in gas appliances	4	10	New
21900	Demonstrate knowledge of safety requirements in gasfitting	3	4	New

Domain Plumbing

Id	Title	Level	Credit	Review Category
2117	Install and maintain water supply backflow protection systems Install, test, and maintain water supply backflow prevention devices	4	11	B
2136	Use and maintain plumbing hand tools Identify and describe hand tools and testing equipment for plumbing	3 2	3 2	B
2137	Use and maintain plumbing trade equipment Identify and describe trade equipment and power tools used for plumbing	3 2	4 1	B
2140	Join lead sheet and tube by lead burning	3	1	D
2141	Join lead sheet and tube by wiping	3	1	D

Id	Title	Level	Credit	Review Category
2143	Install and secure water supply pipework Install, secure, and maintain water supply pipework in buildings	4 3	11	B
2144	Install and secure foulwater pipework systems Install, secure, and maintain foulwater systems	4	11 22	B
2145	Install water supply systems	4	10	C
2160	Install water metering equipment	4	1	C
2161	Install water mains	4	7	C
23849	Install and maintain water mains and water supply systems and reticulation	4	8	
2147	Install metal cladding systems	3	7	C
2163	Design and fabricate sheet lead and tube plumbing items	4	4	C
2164	Install corrugated roofing systems	4	10	C
2165	Install pan deck roofing systems	4	10	C
21884	Install and maintain roofing, rainwater handling, and cladding systems, and flashings	4	25	
2149	Install pumps and controls for water supply and disposal systems Select, install, and maintain pumps and controls for water supply and disposal systems in plumbing	4	10	B
2151	Install hot water supply systems	4	11	C
23850	Install, commission, and maintain low pressure, open-vented, and push-through hot water supply systems	4	10	
23851	Install, commission, and maintain valve-vented hot water supply systems	4	16	
2153	Install space heaters Install and maintain solid fuel space heaters and flues	4	9 6	B
2154	Install domestic plumbing appliances and fittings	4	10	C
2155	Install commercial plumbing appliances and fittings	4	10	C
21885	Install and maintain sanitary appliances and fixtures	4	10	
2156	Install dental, medical and mortuary equipment and facilities	4	6	C
21886	Demonstrate knowledge of specialist sanitary appliances and fixtures	3	5	
2159	Install compressed air and vacuum services	4	5	B
	Demonstrate knowledge of the installation and maintenance of compressed air and vacuum services	3	4	
23847	Prepare to test, and inspect and test, water supply backflow prevention devices	3	4	New
23848	Describe suitability, installation, and testing of water supply backflow prevention devices, and fault identification	3	4	New

Id	Title	Level	Credit	Review Category
24305	Install, test, commission, and maintain solar water heating systems	4	7	New